

# Build an intelligent search application in a few clicks with Amazon Kendra

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# What is Intelligent Search?

# Critical information is getting harder to find

80%

of data at the enterprise is **unstructured**

(documents, help website, support documentation, and so on)<sup>1</sup>

It is proliferating and often scattered and inaccessible

## Customer challenges



Inaccurate keyword search



Complex implementation



Manual tuning



Ongoing maintenance

<sup>1</sup>Capgemini, [Reorganizing unstructured data](#)

# How does Amazon Kendra solve these challenges?

## EASY TO FIND WHAT YOU ARE LOOKING FOR



### Natural language queries

Intuitive search within unstructured content



### NLU and machine learning (ML) core

Instant answers

FAQ matching

Document ranking



### Broad domain expertise

Pre-trained for 14 domains and industries



### Continuous improvement

Incrementally learns from user feedback

## QUICK SETUP



### Accelerators

Native and partner connectors

Automate ingestion with custom metadata enrichment

No-/low-code UI builder

## SECURE



### Secure search

Encrypted in transit and rest

Token-based access control

AWS SSO integration

# Employees and customers want answers quickly

Traditional  
search

## Intranet Search

Your recent searches ▾ Not finding relevant results

SEARCH IN:

Everything (21)  
Wiki (17)  
Email List Archive (3)  
Show more...

REFINE:

CATEGORIES

Service (1)  
Team (1)

CREATOR

admin (1)  
abcde (1)  
it (1)  
corp (1)

Displaying results 1 - 10 of 21

**IT\_Support\_Training\_Program.Wiki**  
18px"%)1 Linux desktop \* (% style="font-size:13.5px"%)\*\*Afternoon  
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<https://w.co.com/bin/view/Corp/Pend>



## RESULTS PAGE

Kendra's suggested answer

### 1st floor

... our IT help desk, deskside, which are located all around our buildings and open for support at most hours. The one in **Seattle** is on the **1st floor** and is open from 12:30 to 5 p.m. daily.

WEB | <https://w.organization.com/bin/view/ILDRTEST/>

What is Kendra's suggested answer? [Info](#)

Frequently asked questions

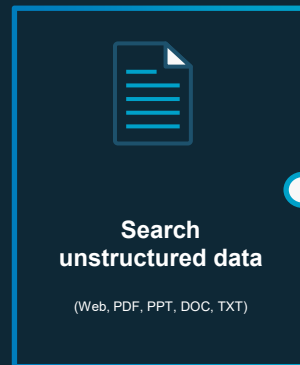
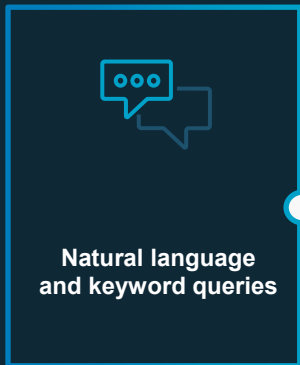
Where do I get IT help?

What are the IT support hours?

Where can I get IT help corporate campus?

What are frequently asked questions? [Info](#)

Intelligent  
search



Where is the it support desk in kumo?

Kendra's suggested answer

**1st floor**

... our IT help desk, deskside, which are located all around our buildings and open for support at most hours. The one in **Kumo** is on the **1st floor** and is open from 12:30 to 5 p.m. daily.

WEB | <https://w.amazon.com/bin/view/ILDRTEST/>

What is Kendra's suggested answer? Info

Frequently asked questions

**Where do I get IT help in Kumo?**

What are the IT support hours in Dopler?

Where can I get IT help Seattle campus?

What are frequently asked questions? Info

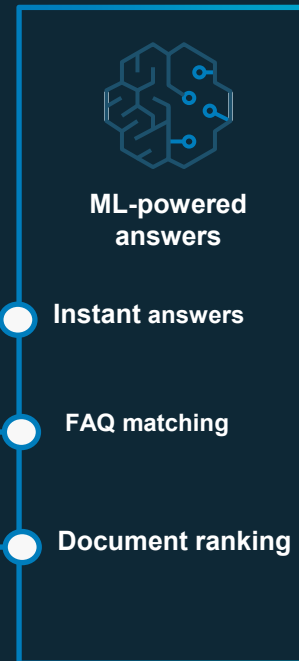
1-10 of 486 Recommended documents

Sort: Relevancy ▼

**AWS Kumo**

...this is how we're doing it. Access controls Access to this host is governed by the permissions associated with the **AWS-SUPPORT-KUMO** hostclass. Permissions to the **aws-support-kumo** group... (More)

WEB | <https://w.amazon.com/bin/view/kumo-support>



# Tune search relevance



## **Incremental learning (out of the box)**

- ✓ Learns from previous user interactions
- ✓ Re-ranks preferred documents
- ✓ No need for ML expertise



## **Tuning, content boosting, and synonyms**

- ✓ Boost based on data sources, authors, document freshness, and more
- ✓ Tunes at the entire index or query level
- ✓ Import custom and business-related synonyms

# Top use cases

## ENTERPRISE SEARCH

### Intranet portal

- Centralized search

### Department focused

- R&D
- Compliance/risk mitigation
- HR
- IT
- Legal

## CUSTOMER SERVICE

### Call center agent assist

### Self-service virtual agents/bots

### Website search

## EMBEDDED SEARCH

### ISV/SaaS applications

- CMS
- CRM
- Productivity apps





## PROBLEM

Need to maintain **pace of innovation**. When material scientists lead new research, they need **fast access to information from prior relevant research**—information that is buried in the many patents 3M holds in its huge knowledge base.

## SOLUTION & IMPACT

Material scientists can use Amazon Kendra to help ask plain-language questions and **get accurate answers quickly**.

- ✓ Innovate faster
- ✓ Collaborate more effectively
- ✓ Accelerate stream of ongoing product development



## PROBLEM

Employees **have difficulties finding the right information** across nine enterprise systems and multiple source systems.

## SOLUTION & IMPACT

Amazon Kendra is a turnkey AI solution that spans every domain in the organization while being **easy to implement**. Amazon Textract fills in missing or incomplete metadata for documents ingested into Amazon Kendra.

- ✓ Increase staff productivity
- ✓ Streamline workflows
- ✓ Share information across divisions to help fuel research, experimentation, and pharmaceutical breakthroughs

# Magellan Rx MANAGEMENT<sup>SM</sup>

## PROBLEM

In a sea of **ever-evolving, complex healthcare information**, documents and records change on a daily basis. It is difficult to provide contact center agents with **access to the latest and most up-to-date information**.

## SOLUTION & IMPACT

Implement Amazon Kendra and AWS Contact Center Intelligence (CCI) to help call center agents and the customers they serve **quickly uncover the information they need**.

- ✓ Reduced agent training time by 3–5 days
- ✓ Increased agent call-handling volume
- ✓ Lowered average call time by 9–15 seconds, which saves over 4K hours on over 2.2 million calls per calendar year

# Intelligent search value proposition

## Increased employee productivity and customer satisfaction

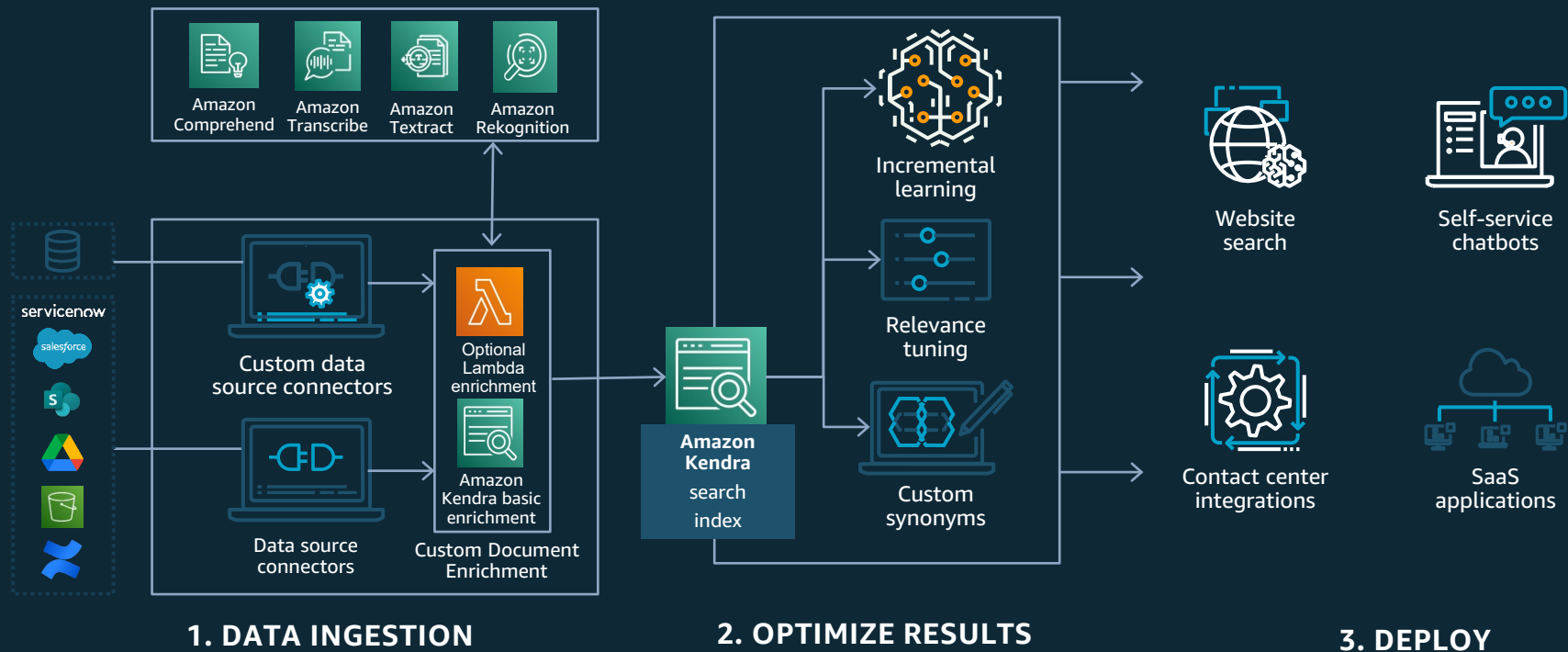
- Time savings from not having to open documents to find answers
  - Cost savings through faster answer retrieval and risk mitigation
- 

## Lower total cost of ownership (TCO)

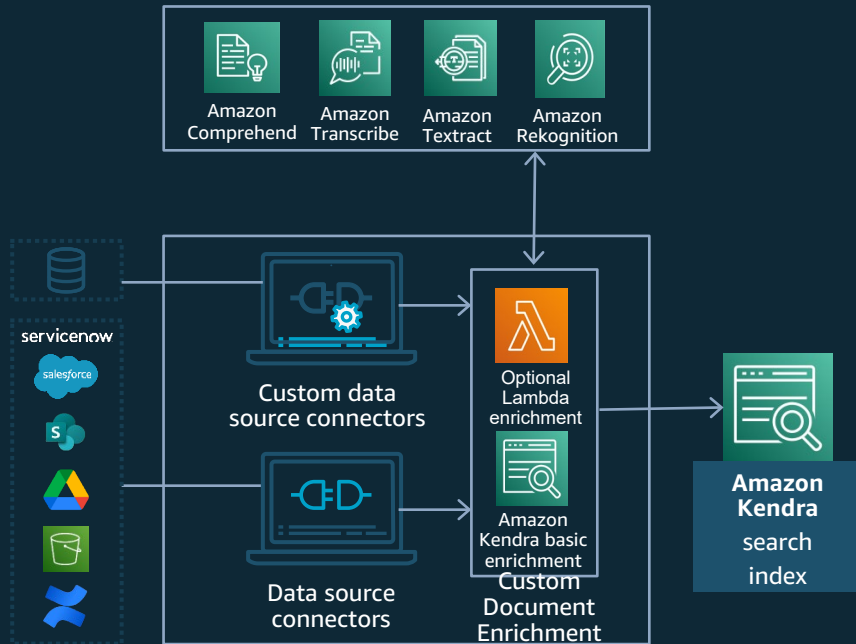
- ML-powered search service
- Fully managed service; no cluster management or ML experience required
- Connect to repositories like Amazon S3, Microsoft SharePoint, Salesforce, and so on, through native connectors with cost-effective pay-as-you-go pricing
- Built-in search Experience Builder for code-free deployments

# Amazon Kendra

## Building an intelligent search application



# Custom document enrichment



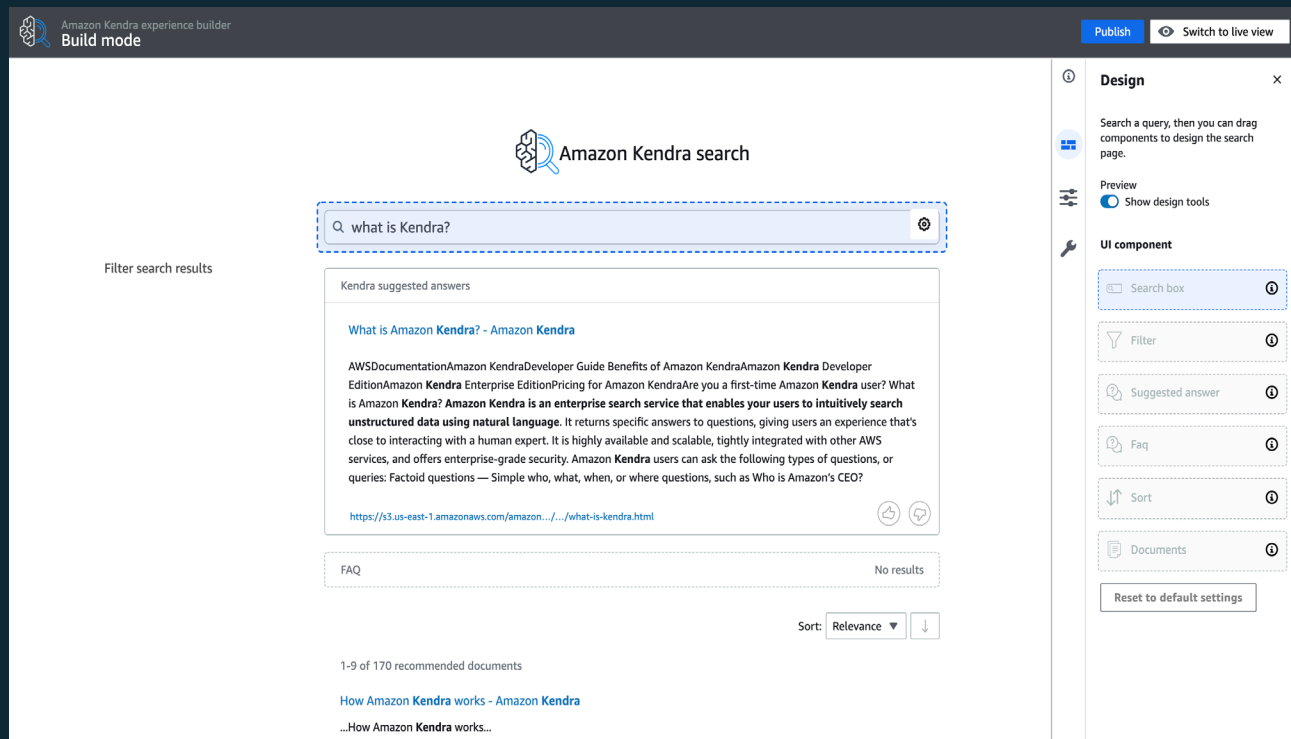
## 1. DATA INGESTION

Add rich metadata during data ingestion to enhance the accuracy and search experience

Basic enrichment (such as metadata based on document directory) is built into the Amazon Kendra console

Amazon Lambda functions enable custom metadata creation through natural language processing (NLP), automatic speech recognition (ASR), optical character recognition (OCR), and so on

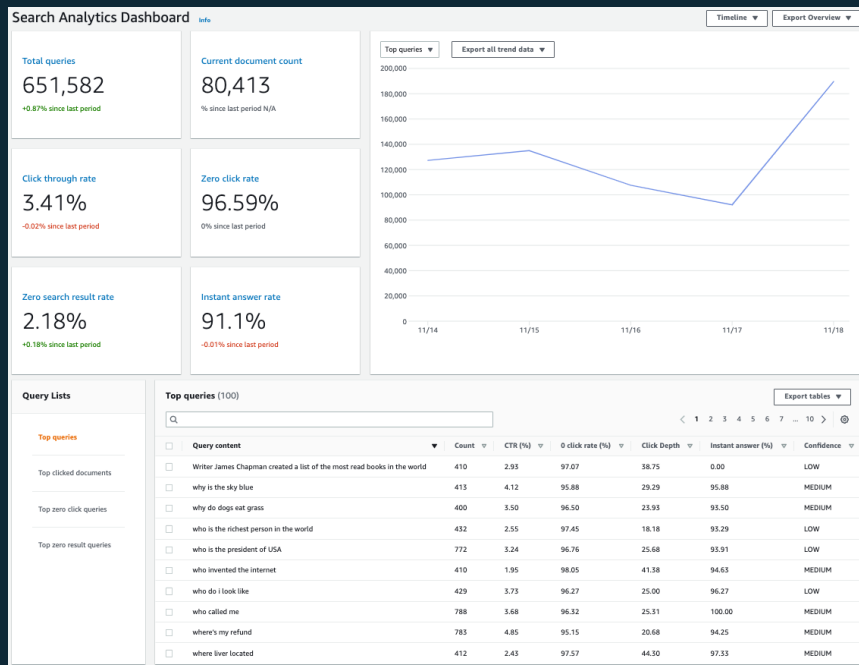
# Amazon Kendra Experience Builder



- ✓ Deploy Kendra Search UI in a few clicks
- ✓ Drag and drop Search UI builder
- ✓ AWS SSO integration for secure access and search filtering
- ✓ Fully managed/hosted
- ✓ No ML or coding expertise needed

# Amazon Kendra Analytics Dashboard

- Key quality and usability metrics
- Helps admins and content creators
  - Understand how easily users are finding relevant search results
  - Quality of the search results
  - Gaps in the content
  - Role of instant answer in providing answers to users' results
- Viewed in console dashboard or accessed through an API





# [DEMO]

# Get started: Run a flash POC

- 1 Pick a use case that has an ideal fit for Amazon Kendra and has easy-to-access low-security content
- 2 Determine questions you want to ask about this content. Pick some keyword queries (2–3 words) and some “What is ...”, “Where ...”, “Who ...”, “When ...” type questions
- 3 Add content into Amazon Kendra
  - Index your website; or
  - Documents (moved to) in Amazon S3
- 4 Type the questions you identified earlier to assess search results
- 5 Compare Amazon Kendra’s top 5–10 results to existing results; the instant answers feature saves minutes of valuable time per query
- 6 Visit the Amazon Kendra page to get started at [aws.amazon.com/kendra/](https://aws.amazon.com/kendra/)



# Thank you!